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ABSTRACT

The generalization of specific social skills to new environments by four elementary aged learning-disabled students was studied using a modified multiple baseline, single-subject research design. During one spring semester, each student was trained for 12 weeks in the use of a specific social skill (such as compliance, cooperative play, or non-argumentative behavior) in the learning disabilities resource room. Training included discussion and verbal rehearsal of means and results of using the social skills with the subjects. Once the student's use of the social skills had become proficient, attempts to establish the skill outside the resource room (such as in a mainstreamed classroom) were initiated. Reinforcement (systematic teacher attention, parent encouragement) were delivered to students in the new environments. When the students were again observed during the following fall semester for nine weeks, it appeared that all students manifested generalization of the social skills to the new environments. (Author/CB)

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Fostering Social Skill Generalization in Elementary Aged Learning Disabled Children

Paper presented at the Annual Meeting of the Iowa Educational Research and Evaluation Association (November 14-15, 1985).

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Abstract

The generalization of specific social skills to new environments/situations by elementary aged learning disabled students was the primary focus of this study. A modified multiple baseline, single subject research design was employed to evaluate changes in the behavior of each subject. During the spring semester of 1985 school each subject was trained in the use of a specific social skill in the learning disabilities resource room. This training in the LD resource room included a discussion and verbal rehearsal of means and results of using the specific social skills with the subjects. Once the subject's use of the social skills had become proficient, attempts to establish the skill outside the resource room were initiated as an attempt to train a sufficient number of exemplars of the use of the target behavior. Reinforcement in the form of systematic teacher attention was delivered in the new environments by teachers and parents. During the fall semester of 1985 each of the subjects was again observed with respect to the target behaviors. The observations took place in integrated class settings. All the subjects manifested generalization of the social skills to the new environments.

Introduction

Educators, therapists, and psychologists have always concentrated their efforts on individual acquisition/development of specific skills (Davies & Rogers, 1985; Wehman, 1975; Staceys, Doresi & Malcolm, 1979; Foss & Peterson, 1981). Skill generalization, until fairly recently, was seldom a focus of intervention planning. However, several investigators (Stokes & Baer, 1977; Alley & Blackbourn, 1980; Baer, 1981) have attempted to bring skill generalization to the educational forefront by outlining specific methodologies for fostering the development of generalized responses.

The generalization of social skills is of prime importance in the education of the handicapped. Bryan, 1976; Bryan, Wheeler, Feclan & Hannek, 1976 and Bryan & Bryan, 1977, have indicated a high degree of correlation between learning disabilities and deficits in social functioning. Many other researchers (Davies & Rogers, 1985; Foss & Peterson, 1981; Wehman, 1975) have examined the value of social skills training to enhance the functional ability of the handicapped individual. The acquisition of age appropriate social skills can lessen the perceived difference between handicapped individuals and their nonhandicapped peers and thereby foster more positive interaction between the two. However, acquisition of specific social skills is often not sufficient as an intervention goal. Generalization of skills to new environments/situations must be the prime focus of social skills training. Intervention approaches should include strategies that increase the likelihood that the student

will exhibit positive social behaviors once the reinforcement contingencies are withdrawn (Baer, Wolf, & Risley, 1968).

Deshler & Alley (1979) hold that social skills and skill generalization are viable goals for educators and provide an outline for fostering acquisition and generalization. In addition, Guralnick (1978) states that social skills should be taught at the age-appropriate times when possible. In light of these points educators should focus a portion of their efforts on fostering age-appropriate social skill generalization among elementary aged handicapped children.

Method

Subjects and Setting

The subjects in this study were four elementary school aged learning disabled children. The children were students in a single learning disabilities resource room in an urban elementary school. The subjects spent approximately one and one half hours per day in the learning disabilities resource room. The students became subjects in the study due to long term concern by teachers and parents with respect to the childrens' social development. Each of the children were felt to possess inappropriate social behaviors which interfered with their interaction with others. The target behaviors were identified on an individual basis. While regular classroom teachers and parents provided input to selection of the individual target behaviors, the final choice of target behaviors for each child was made by the resource room teacher.

Procedures

A modified multiple baseline design was employed in this study. A single behavior in each subject was observed across four different settings. In three settings the purpose of the study was to establish the behavior through systematic attention and prompts (i.e. training sufficient exemplars) and the learning strategy training methodology described by Deshler & Alley (1979). In the final setting the prompts and reinforcers were withdrawn in order to determine if the skill of interest was generalized to the new setting.

The training of sufficient exemplars (Stokes & Baer, 1977) of the appropriate use of a given social skill was the experimental technique used in the study. Specific social skills were taught initially in the elementary school learning disabilities resource room and were the focus of intervention in environments outside of the resource room. Social skill training in the LD resource room included discussion, explanation and verbal rehearsal of appropriate skill usage and results. The training of exemplars of the target behaviors took place during a twelve week span of the spring semester of 1985. Once the behaviors of interest had been established in controlled situations, the subjects were observed in new environments (over nine consecutive seeks during the fall semester of 1985) to determine if skill generalization occurred. Prior to their entry into the new environment, the resource room teacher consulted with each subject's new regular classroom teacher in order to ensure that no prompts or attention of any type would be delivered to the subjects for producing or not producing the target behavior. Data

was collected by teachers and parents through the use of a frequency count. Reliability data was collected by the resource room teacher and her student teachers during the spring and fall semesters of 1985.

Results

The results of the study are presented in figures 1-4.

Figure 1

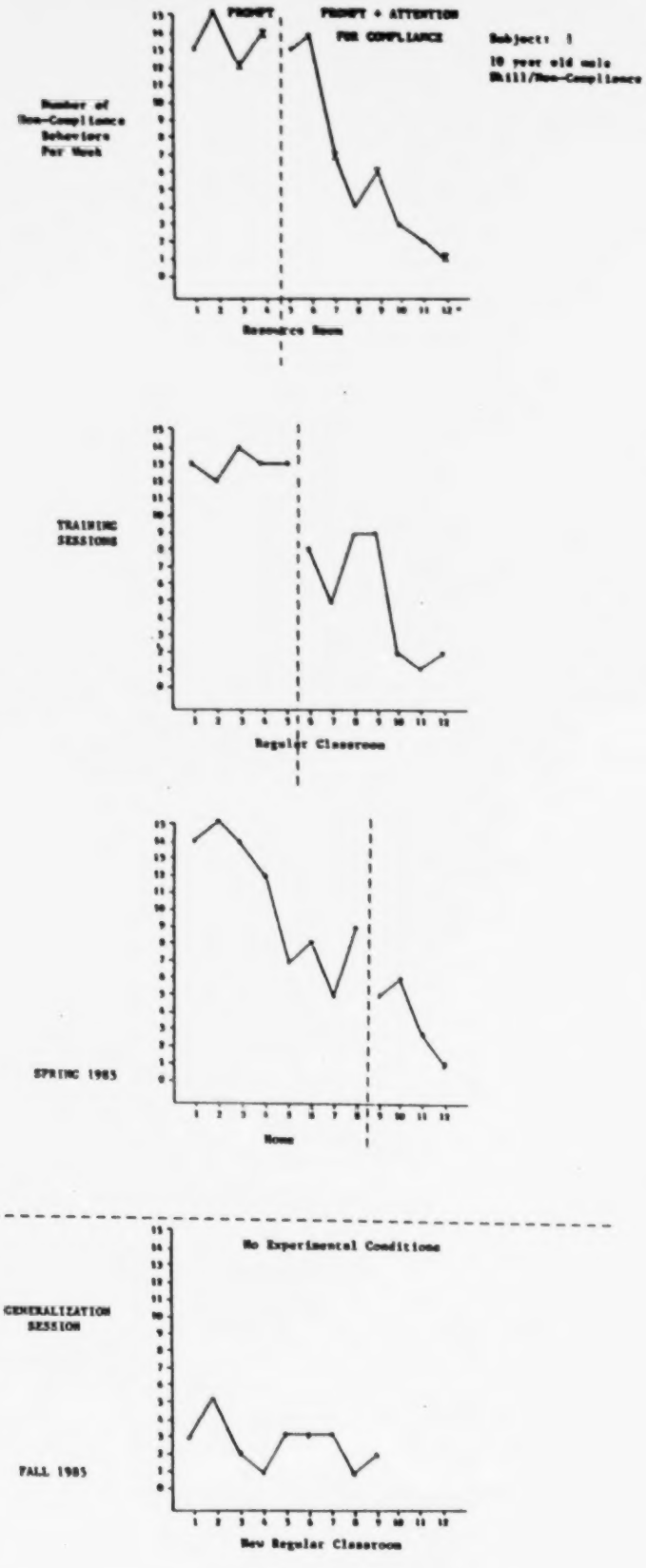

PROMPT
PROMPT + ATTENTION FOR COMPLIANCE
Subject: 1
10 year old male
Skill/Non-Compliance
Number of Non-Compliance Behaviors Per Week
Resource Room
TRAINING SESSIONS
Regular Classroom
SPRING 1985
Home
No Experimental Conditions
GENERALIZATION SESSION
FALL 1985
New Regular Classroom

Figure 2

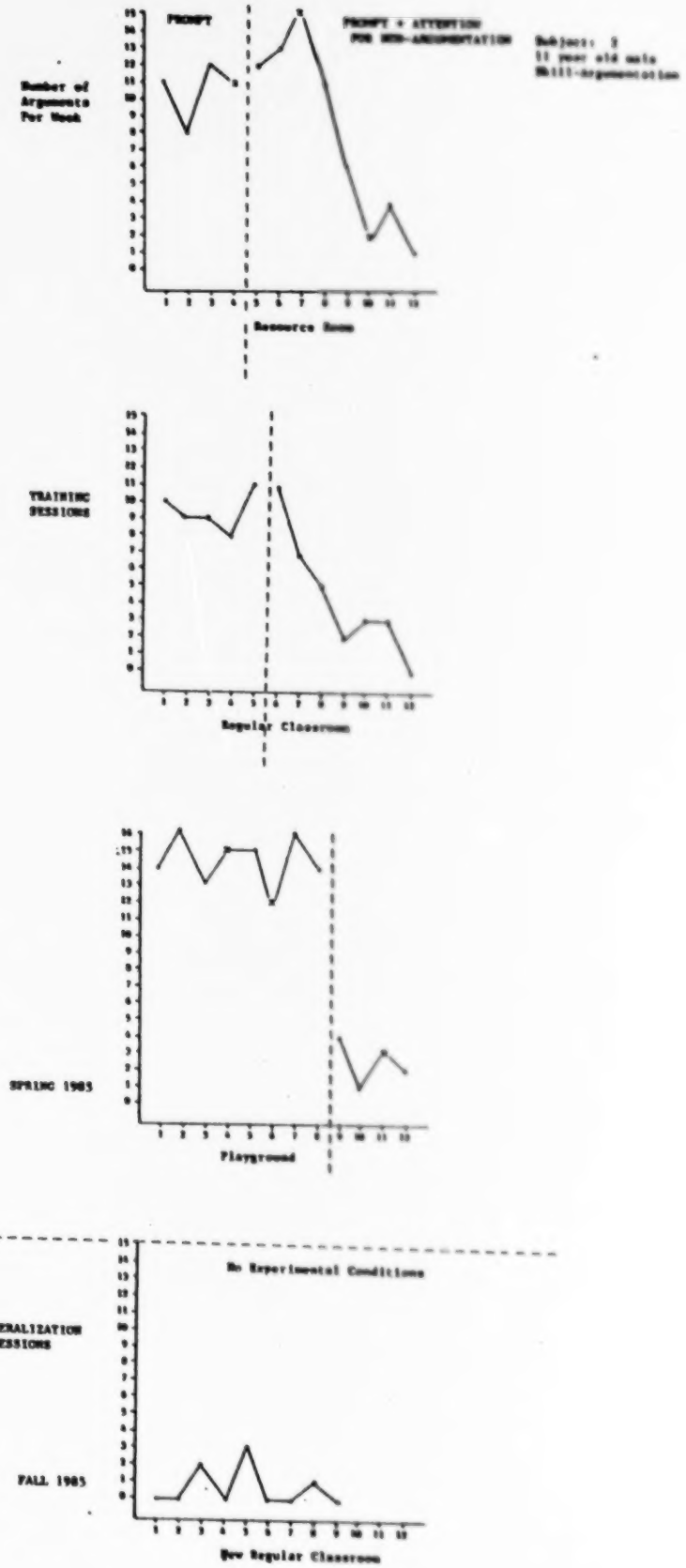

PROMPT
PROMPT + ATTENTION
FOR NON-ARGUMENTATION
Subject: S
11 year old male
Skill-argumentation
Number of
Arguments
Per Week
Resource Room
TRAINING
SESSIONS
Regular Classroom
SPRING 1985
Playground
No Experimental Conditions
GENERALIZATION
SESSIONS
FALL 1985
New Regular Classroom

Figure 3

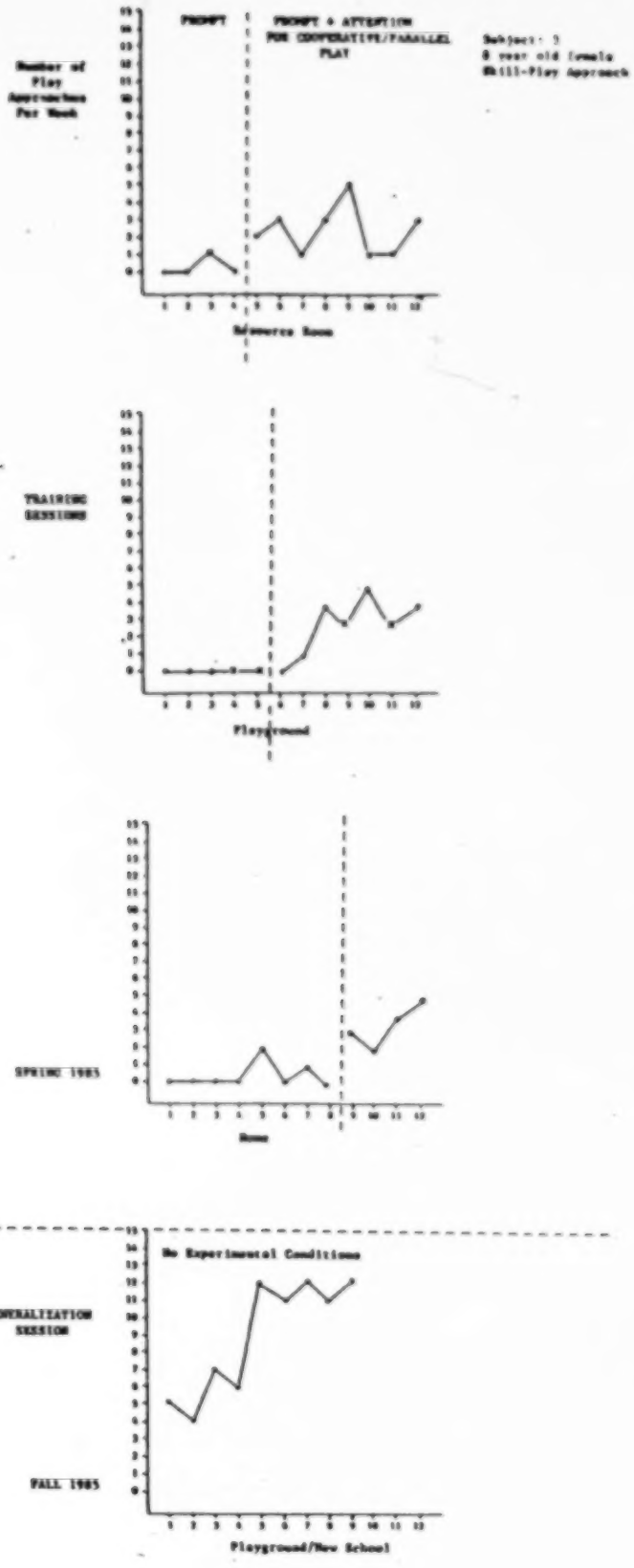
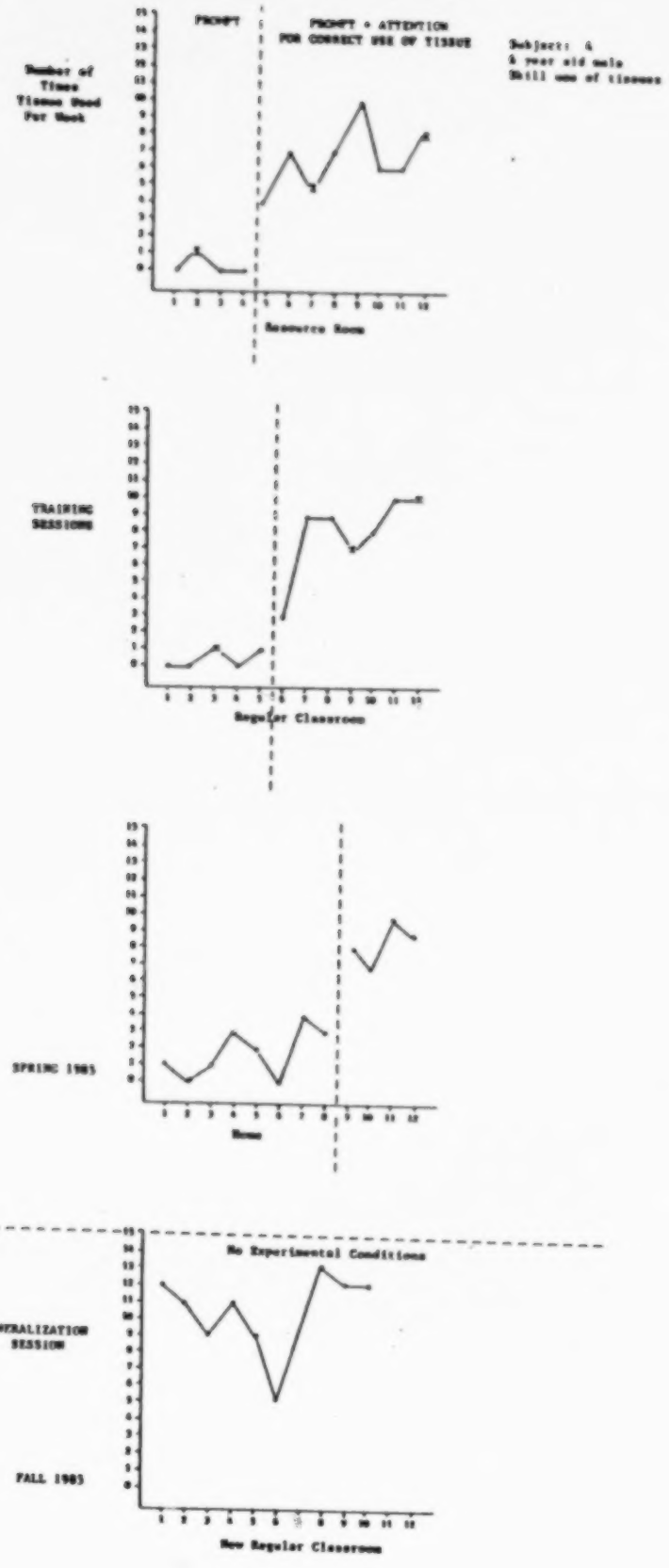

PROMPT
PROMPT + ATTENTION FOR COOPERATIVE/PARALLEL PLAY
Subject: 3
8 year old female
Skill-Play Approach
Number of Play Approaches Per Week
Playground
TRAINING SESSIONS
SPRING 1985
Home
No Experimental Conditions
GENERALIZATION SESSION
FALL 1985
Playground/New School

Figure 4


PROMPT
PROMPT + ATTENTION FOR CORRECT USE OF TISSUE
Subject: A
4 year old male
Skill use of tissues
Number of Times Tissue Used Per Week
Resource Room
TRAINING SESSIONS
Regular Classroom
SPRING 1985
Home
No Experimental Conditions
GENERALIZATION SESSION
FALL 1985
New Regular Classroom

Subject I

The noncompliant behavior toward both peers and adults in the resource room, the regular fourth grade classroom and at home was rewarded and graphed. Subject I, a ten year old learning disabled male, was examined during the early weeks of the 1985 spring semester using a frequency count method. The subject's weekly level of non-compliance during baseline phases ranged between 15 and 5 non-compliant acts per week. The average level of non-compliance during baseline was 11.94 behaviors per week. During baseline the subject received a verbal prompt as to the source of his non-compliance each time he balked in his duties or was non-compliant with a peer.

During the experimental phases the subject received a verbal prompt for correct behavior when he was non-compliant and positive attention directly after his compliance with an adult request. During the experimental phases the subjects's level of non-compliance ranged between 14 and 1 behaviors per week. The average number of non-compliant behaviors per week was 5.32.

In the experimental phases of each of the training sessions, the subject demonstrated a reduction in the level of non-compliance. In addition, the subject manifested spontaneously generalized compliance in the home (the third training environment) prior to initiation of the experimental procedures.

During the early weeks of the next fall semester data on the non-compliant behavior was again collected. At this time the subject was placed in a fifth grade classroom in the same school building. Neither of the previous experimental conditions was imposed on the

subject. During the generalization session the subject's behavior ranged from 5 to 1 non-compliant acts per week. The average number of non-compliant behaviors per week was 2.56.

Interobserver reliability data was collected five times during the experiment. Reliability estimates ranged between 100% and 90%. The average interobserver reliability for the experiment was 96%.

Subject II

Subject II was an eleven year old fifth grade student labeled learning disabled. During the early weeks of the 1985 spring semester the argumentative behavior of the subject was examined using a frequency count. The subject's weekly arguments with both peers and adults in the resource room, regular fourth grade classroom, and the playground were recorded and graphed.

During baseline phases the subjects's weekly arguments ranged between 16 and 8. The average number of arguments per week for the subject during baseline was 12.0. During the baseline phases, the subject received a verbal prompt to cease arguing and return to task when he engaged in the target behavior.

During the experimental phases of the training sessions the subject received a verbal prompt for appropriate behavior when he engaged in an argument and positive attention followed cessation of the target behavior. During this phase of the experiment the level of the subjects arguments ranged between 15 and 0 per week. The average number of arguments per week was 5.3.

In each instance the subject demonstrated a reduction in the level of the target behavior. In only one of the training sessions was there an increase in the target behavior prior to a decrease in argumentation.

During the early weeks of the following fall semester additional data was collected. At this time the subject was assigned to a sixth grade classroom in the same school building. No experimental conditions were in place at this time. During the generalization session the level of the subject's weekly arguments range between 3 and 0. The average number of arguments per week at this time was .67.

Interobserver reliability data was collected six times during the experiment. Reliability estimates ranged between 100% and 85%. The average interobserver reliability for the experiment was 93.3%.

Subject III

Subject III was an eight year old second grade, learning disabled female. Early in the 1985 spring semester the play approach skills of the subject were examined employing a frequency count. The number of peer play approaches made by the subject in the resource room, on the playground, and in the home environment were recorded and graphed.

During baseline phases the subjects weekly number of play approaches ranged from 2 to 0. The average number of play approaches per week during baseline phases was .18. The subject received a

verbal prompt to engage peers in play activities when playing in isolation during baseline phases.

The subject received a prompt to engage peers in play activities and positive attention following play approaches during experimental phases of the training sessions. During the experimental phases the subject's play approaches ranged between 5 and 0 per week. The average number of play approaches by the subject per week was 2.79 during these phases. In each of the training sessions the subject manifested an increase in the weekly number of peer play approaches over baseline phases.

During the early weeks of the fall semester of 1985 data was again collected on the number of weekly peer play approaches made by the subject. Data was collected on the playground. The subject at this time was attending a third grade class in a different school within the same school district. No experimental conditions were in place during this time. During the generalization session the range of weekly peer play approaches by the subject was between 5 and 12.

Interobserver reliability data was collected six times during the course of the study. Interobserver reliability during the experiment ranged from 95% to 85%. Average reliability for the study was 88.3%.

Subject IV

Subject IV was a six year old first grade male labeled learning disabled. During the spring semester of 1985 a specific

self help skill related to peer/adult social acceptance (use of tissues for sinus trouble) was examined using a frequency count. The number of times the subject used a tissue to wipe his nose rather than wiping it on his sleeve, his shirt, or with his hand were recorded and graphed. Data collection took place in the resource room, the regular classroom, and in the home environment.

During baseline phases the subject's weekly number of appropriate use of tissues ranged from 4 to 0. The average number was .94. The subject received a verbal prompt to use the correct materials (tissues) to wipe his nose following the observation of inappropriate personal hygiene behaviors related to his sinus condition.

During the experimental phases the subject received a prompt to use tissues followed by positive attention upon production of the target behavior. During the experimental phases of the training sessions the subjects weekly tissue useage ranged from 3 to 10. The average number of times tissues were used per week by the subject was 7.53.

In each of the experimental phases of the training sessions the subject manifested an increase in the number of times tissues were used per week over baseline levels. In addition, the subject manifested a spontaneous generalized production of the target behavior during baseline conditions of the third training session.

During the early weeks of the 1985 fall semester data was again collected on weekly tissue usage by the subject. At this time the subject was assigned to a second grade classroom in the same school building. No experimental conditions were in place during this time.

During the generalization session the range of tissue usage per week by the subject was between 13 and 5. The average weekly number of appropriate use of tissues was 10.44.

Interobserver reliability was collected six times during the course of the study. Reliability ranged form the 100% to 95%. Mean reliability for the study was 99.17%.

In each of the four cases, the subject smanifested acquisition of the specific target behavior across each of the trained environments. Three of the four subjects displayed a generalized response during baseline conditions in the third training environment. This spontaneous generalization of the target behavior signaled to the researchers that a sufficient number of examples of the social skills of interest had been trained. In addition, all subjects in the study demonstrated a generalization of the target behavior to environments other than those trained and exhibited a high level of proficiency in the skill of interest over the course of the final observation.

Discussion

Fostering the acquisition and generalization of social skills in handicapped individuals is a formidable task. While consistent generalization of skills from experimental environments to natural situations is yet to be achieved, research has indicated that the task can be accomplished through careful planning and intervention (Stokes, Baer, & Jackson, 1974; Halle, Marshall, & Spradlin, 1979; Goetz & Baer, 1973; Stevenson & Fantuzzo, 1984). Of the various

strategies available for fostering acquisition and generalization of skills, prompting, verbal rehearsal, and corrective feedback combined with systematic positive attention are among the most promising.

The results of the study indicate that the training of sufficient exemplars through prompts and systematic attention to be a viable means of fostering social skill generalization in elementary aged learning disabled children. Each of the subjects in the study displayed the ability to adapt the behavior of interest to new environments and situations. Indeed, in two of the cases the subjects began to adapt the target behavior to new environments prior to the introduction of the experimental contingencies. The study was designed to create situations in which the skills of interest could first be established in familiar environments then observed and measured in totally new environments.

The major concern in this study was the researcher's ability to determine the necessary number of training exemplars to insure skill generalization. It would seem that the specific number of training exemplars sufficient to foster generalization would vary from individual to individual. The researchers therefore relied on observations of the subject's behavior in untrained environments. A spontaneous generalized response of the target behavior was used to signal that a sufficient number of exemplars had been trained in the subjects.

A critical aspect of this study was the spontaneous generalization and maintenance of the target behavior in new environments. No specific reinforcement contingencies were planned in any of the generalization environments and the extensive time lapse between the training sessions and the generalization sessions (summer school vacation) was a major concern. However, the natural intrinsic reinforcers associated with

greater social competence may have served to enhance maintenance and generalization of the target skills both over the summer of 1985 and into new untrained environments.

An extremely low number of exemplars was trained in each subject in this study. However, the subjects in this study were of average to above average intelligence. It would seem that, all other things being equal, the higher an individual's level of intellectual functioning, the fewer the number of training exemplars necessary to bring about skill generalization. Indeed, the relationship between intellectual functioning and social skill usage is apparent, especially the ability to learn and use more sophisticated social skills. The high general intellectual level of the subjects could account for the low number of training exemplars necessary to bring about skill generalization in the subjects.

Another critical factor in the relatively rapid generalization of the target skills to new environments, however, may have been the strategy training which occurred in the resource room and was carried over into other controlled environments. Discussion of alternative usage of the target skill with children of average to above average intelligence is in essence equivalent to allowing a child to practice and refine the target behavior. Practice of the target behavior is a basic principle of the training of sufficient exemplars to fostering generalization (Stokes, Baer, and Jackson, 1974). Verbal discussion and rehearsal of alternative skill usage may serve the same purpose as repetitive practice with some, more mildly handicapped individuals.

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